

IN THE ABSTRACT

Please cancel the Abstract currently in the application and substitute therefore the following:

A signal processing method is for use in an array antenna system included in a Code Division Multiple Access (CDMA) mobile telecommunications network base station. The signal processing method includes initializing a weight vector and a snapshot index; obtaining a gradient of output power of an array antenna to a phase of each of the antennas in the array antenna system at every snapshot and determining whether an adaptive gain is added or subtracted depending on the signature of the gradient to update the phase of each antenna; and determining a weight value for each of the antennas to apply the weight value to a signal received at the corresponding one of the antennas.